

# Crayfish Study

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# Crayfish Study

## Scenario:

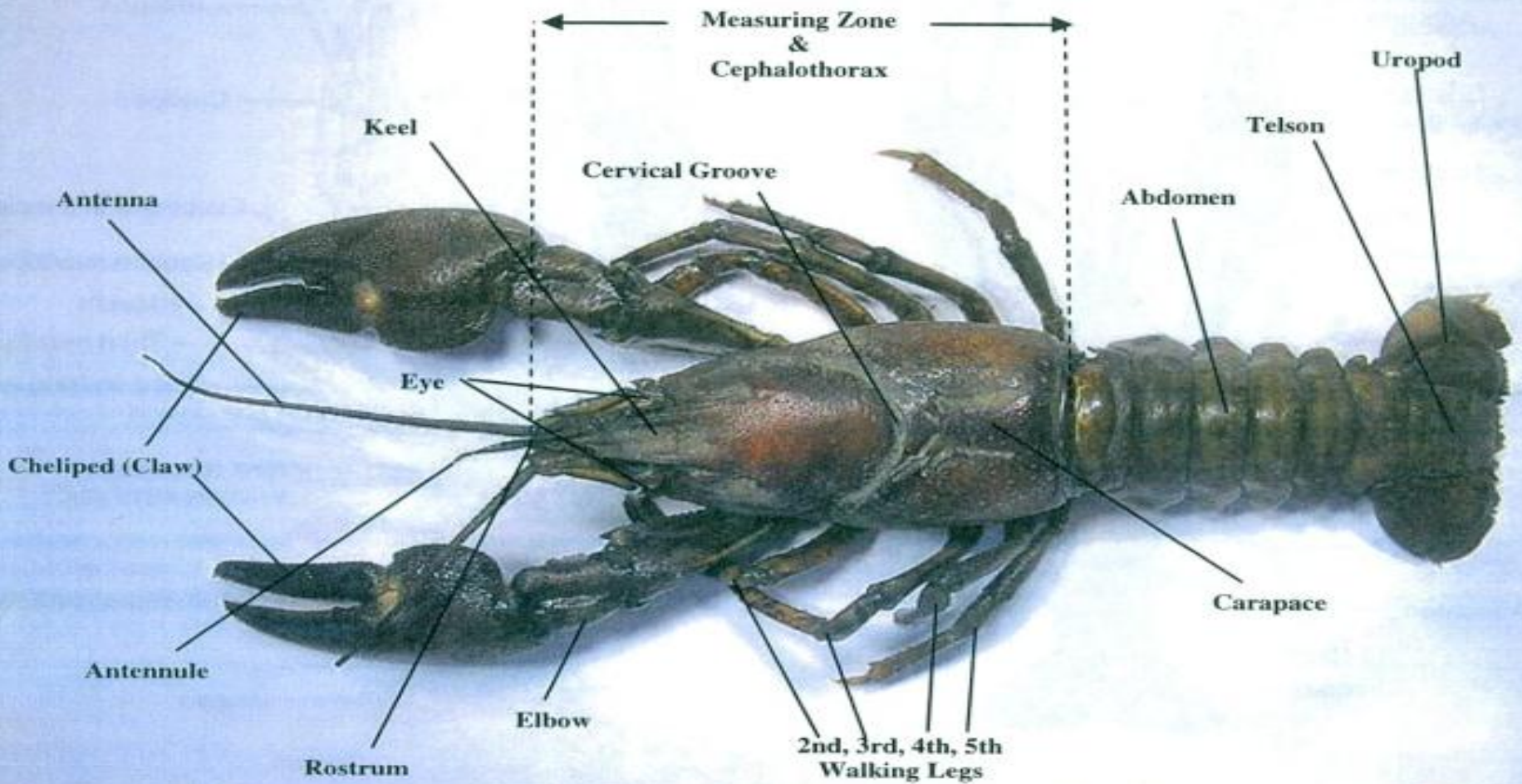
We are Biological Technicians for National Park Service at Lake Roosevelt National Recreation Area. Part of our job is to help with the Crayfish Inventory and Monitoring Program. For this study our duties will be to set and take in the crayfish traps as well as collecting and analyzing the data.

## Data we need to collect:

- GPS location/site of trap
- Depth of water
- Water quality
- Identify crayfish and abundance
- Measure crayfish
- Take pictures of each species of crayfish



# Features of Freshwater Crayfish



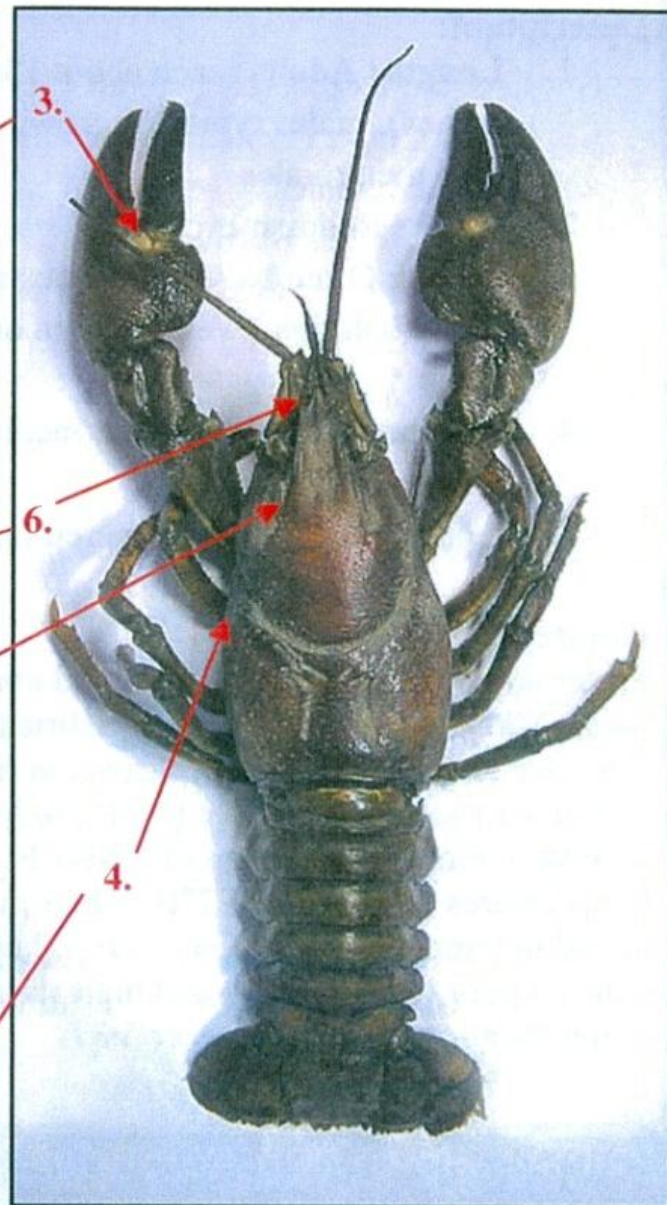


## Description:

1. **Length:** typically 6–9cm (2.4–3.5 inches) long, although sizes up to 16–18 cm (6.3–7.1 inches)
2. **Color:** Bluish-brown to reddish-brown
3. **Claws:** large relative to body size, smooth claws. Underside is red in color. White to pale blue-green patch near the claw hinge.
4. **Carapace:** No spines on shoulders located behind cervical groove
5. **Cephalothorax:** Smooth with two pairs of post-orbital ridges.
6. **Rostrum:** Sides are smooth and more or less parallel until the apex

## Habitat:

Generally prefers cool water with current over a rocky bottom; does not burrow; is highly adaptable, and can be found in a wide variety of habitats including coastal and mountain streams and lakes, reservoirs, and the saline waters in river deltas. It does not occur in waters with a pH lower than 6.0. Very active and migrates up and down rivers, as well as moving overland around obstacles.





## Description:

1. **Length:** Adults reach about 13cm (5.12 inches), males typically growing larger than the females
2. **Color:** Reddish-brown
3. **Claws:** Often have dark specs and orange or reddish tips, over all green or blue-green
4. **Carapace:** Bumps on the medial side along the chelae
5. **Abdomen:** May have paired black marks

## Habitat:

Prefer cobble or rocky substrates and abundant logs, rocks, vegetation and other debris for cover. They are also known to dig burrows in river banks and under rocks when water levels are low. Can survive a temperature range of 32-90°F, but prefers temperatures between 75-77°F. Their mobility is halted in temperatures below 50°F. They are intolerant of poor water quality and high salinity, and prefer locations with a pH over 5.37.



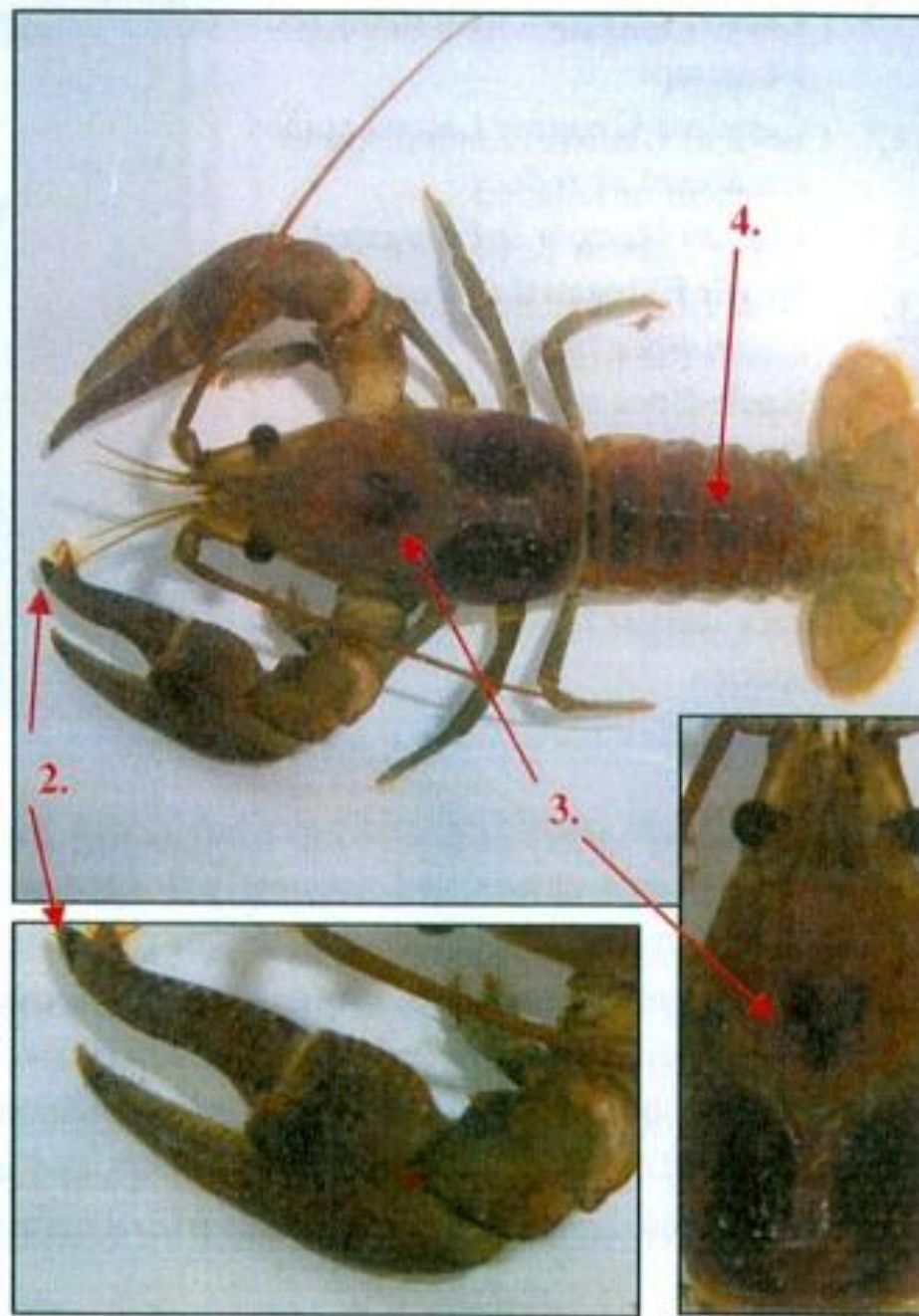


## Description:

1. **Length:** 10 cm (3.94 inches), males are usually larger
2. **Claws:** Robust, grayish-green to reddish-brown with black bands at the tips and fairly smooth
3. **Carapace:** Rusty spots (usually prominent) on either side. Spots are not always present or well developed
4. **Abdomen:** Rust-colored band appears down the center
5. **Walking Legs:** Generally they have a greenish color

## Habitat:

Inhabits lakes, ponds, and streams that provide suitable water quality year-round. Substrates include clay, silt, sand, gravel, or rock, but are almost always found in areas with cobble and carbonate substrates and occasionally found in habitats with gravel substrate and woody debris. Prefers well oxygenated water and a temperature range of 68-77°F. Most often found in depths of less than 1m (3.3 feet).





## NON-NATIVE

1. **Length:** Adults reach about 5.5 to 12cms (2.2 to 4.7 inches)
2. **Color:** Dark red
3. **Claws:** Elongate with many red-  
ish bumps
4. **Cervical Groove:** Lateral spines  
are absent or reduced
5. **Elbow:** Narrow & Elongated
6. **Head:** Elongated and narrowing  
towards the front.
7. **Keel:** Does not have
8. **Rostrum:** Obvious triangular  
shape/sides taper to the front
9. **Juvenile:** Are not red and appear  
very similar to other *Procambarus*  
species.

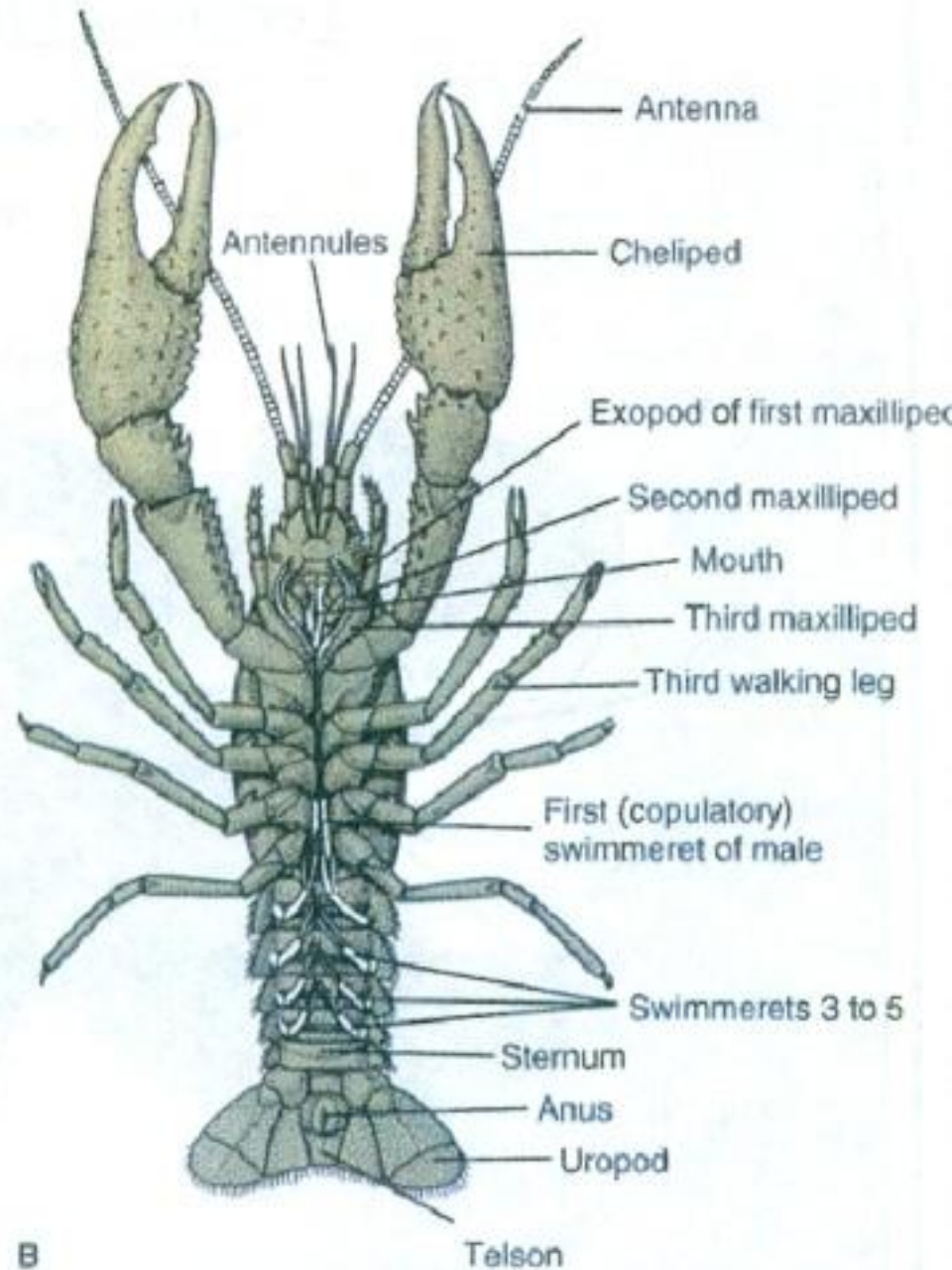
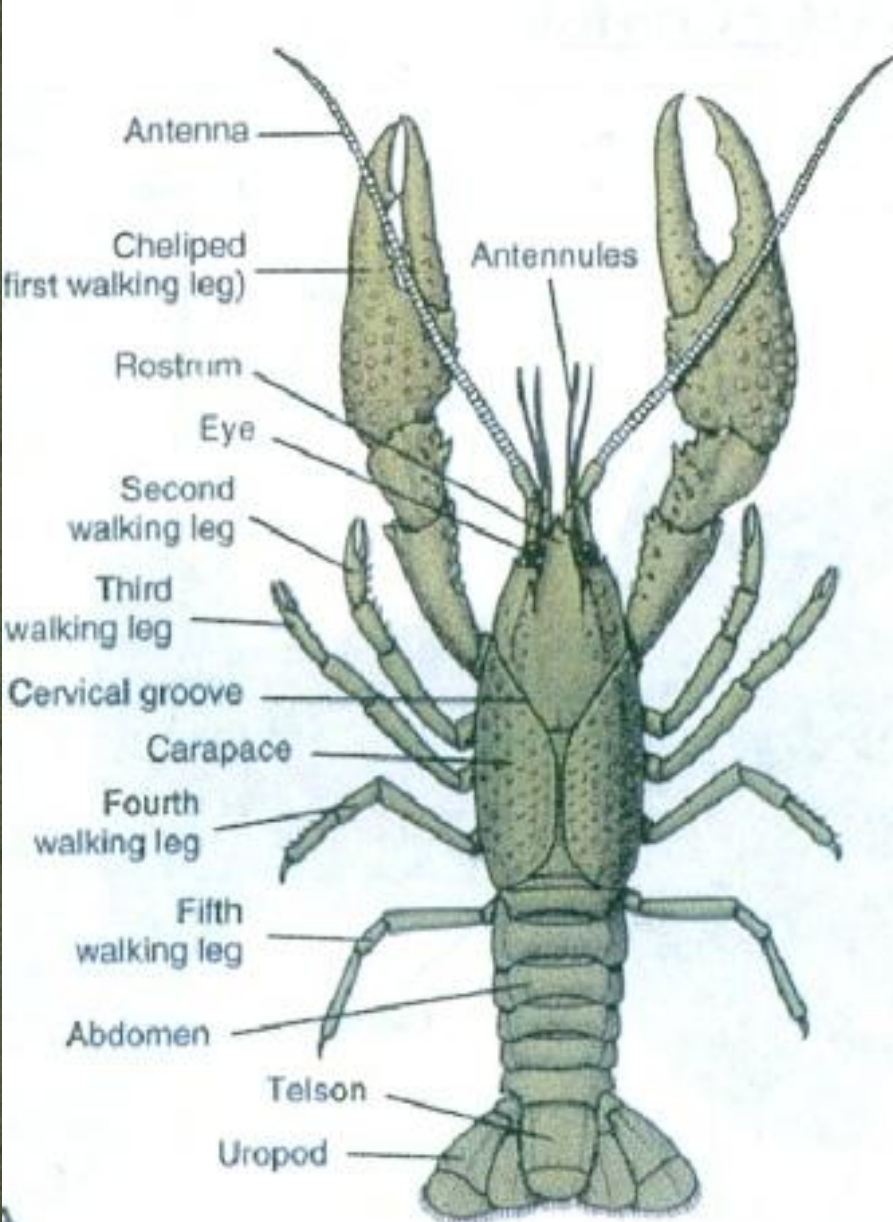


May inhabit a wide variety of freshwater habitats including rivers, lakes, ponds, streams, canals, and seasonally flooded swamps and marshes. Very tolerant and adaptable to a wide range of aquatic conditions including moderate salinity, low oxygen levels, extreme temperatures, and pollution. *P. clarkia* thrives in warm, shallow wetland ecosystems. In the cooler regions, it prefers small, permanent ponds because it is unable to survive predation by fishes in large water bodies. *P. clarkii* also frequently inhabits disturbed environments such as rice fields and irrigation channels and reservoirs. Populations have been negatively correlated with high elevation and flow velocity.



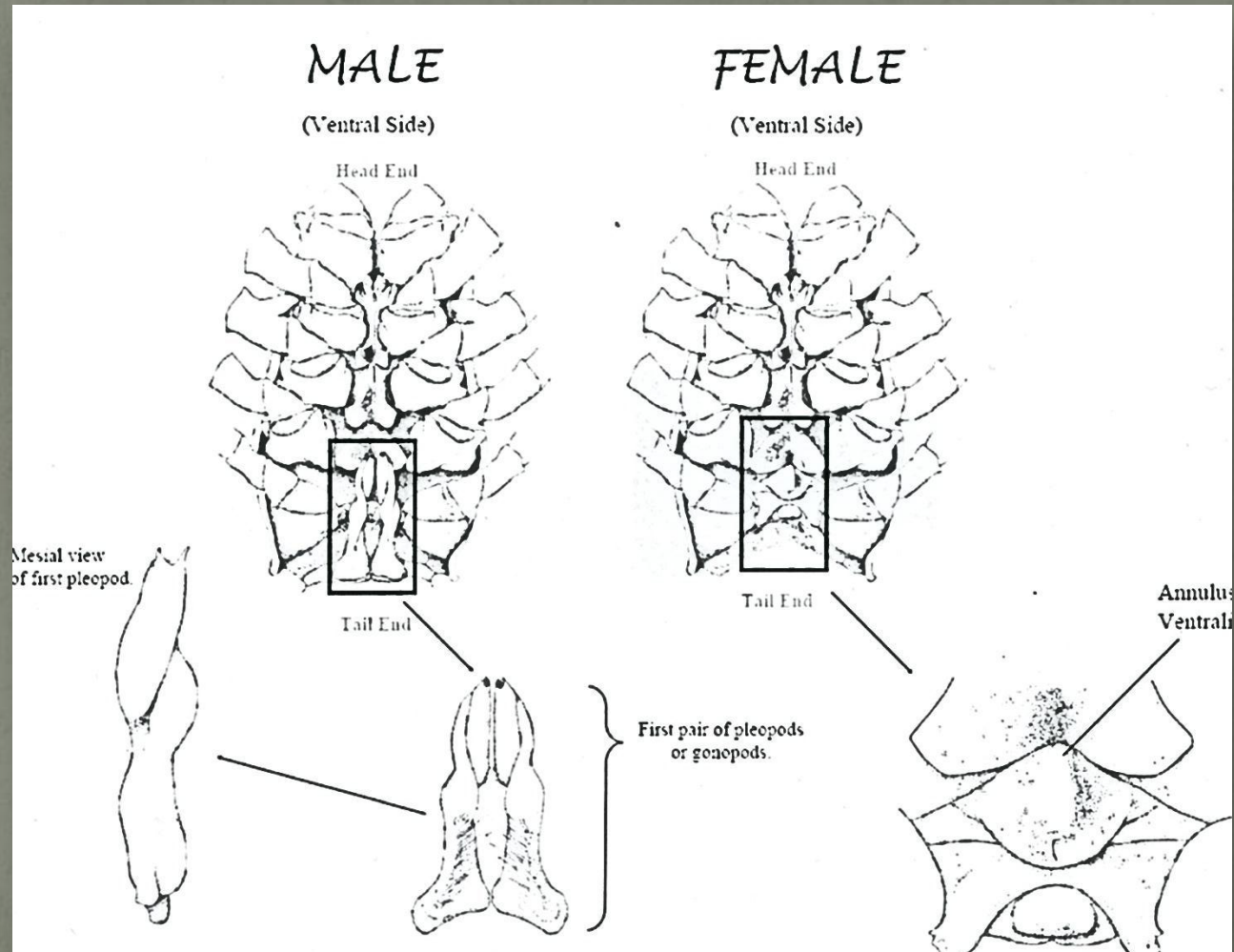
# Other

## Crayfish Body Parts and Functions





# Identify the Sex





# Northern Crayfish





# Signal Crayfish





# Signal Crayfish



# Field Supplies and Equipment

- Field maps
- Field data forms
- Crayfish  
Identification keys
- Paper, pencil, and  
sharpie
- Digital camera
- Plastic bags
- Waders
- Cooler/Ice
- Bucket
- Sampling permit



# Crayfish Traps





# Field Supplies and Equipment

Measuring Board



Canned Cat Food



GPS & Digital Scale



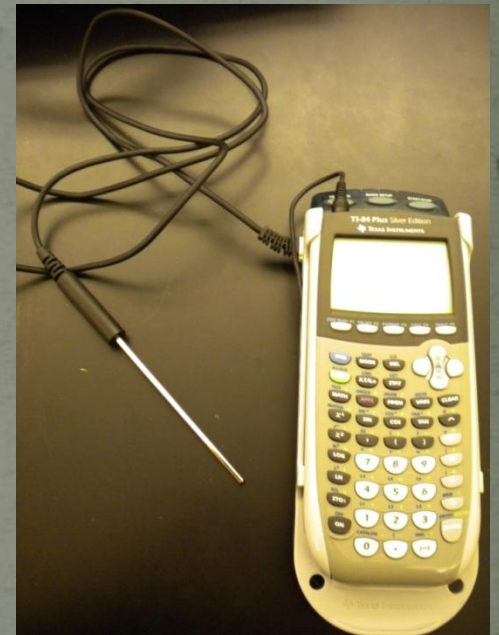


# Field Supplies and Equipment

YSI Meter



Thermometer



# YSI Meter

- Must calibrate before use
- Water Temperature
- pH
- Dissolved Oxygen
- Conductivity





# Measuring Crayfish

